

## Patent Abstracts of Japan

PUBLICATION NUMBER : 09196859  
PUBLICATION DATE : 31-07-97

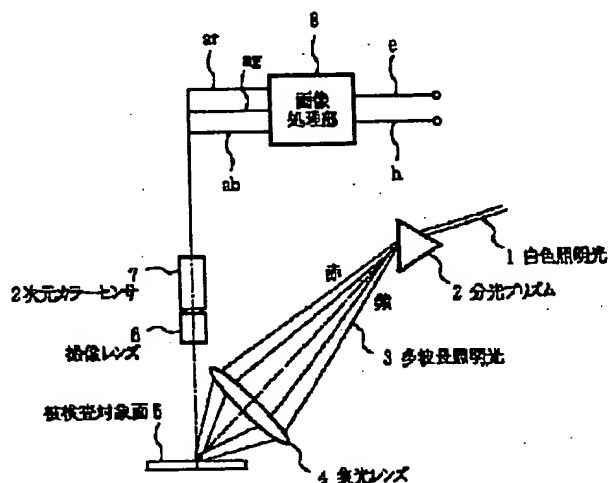
APPLICATION DATE : 23-01-96  
APPLICATION NUMBER : 08009101

APPLICANT : NEC CORP;

INVENTOR : MIHASHI HIDEO;

INT.CL. : G01N 21/88 H01L 21/66

TITLE : SURFACE DEFECT INSPECTION  
DEVICE



ABSTRACT : PROBLEM TO BE SOLVED: To detect surface defect of a silicon wafer and judge its sort.

SOLUTION: When a white illumination light 1 is spectrally separated by a prism 2 and cast on a surface to be inspected 5 upon convergence made by a condenser lens 4, a plurality of beams of light having different wavelengths are cast on the surface 5 at different angles. A two-dimensional color sensor 7 photographs the surface 5 through a photographing lens 6 and outputs color image signals ar, ag, ab of R, G, B. In case where the surface includes a defect having a gradually inclining angle, only the light of red wavelength projected at an angle nearest the perpendicular is reflected in the direction of the photographing lens 6, so that reddish photo is obtained. In case where the surface includes a defect having a large inclination angle, the violet rays projected at an angle nearest the horizontal are photographed. That is, each defect is photographed in different color depending upon the sort of the defect. Thus the defect detection is conducted by an image processing part 8, and the sort of the defect is judged according to the color information.

COPYRIGHT: (C)1997,JPO